

# **Prototype Project Assessment and Evaluation Plan**

## **Education, Outreach, and Capacity-building**

### ***Evaluating Alternative Futures in the Mill Creek Watershed***

#### **I. Project Summary**

##### **A. Funding Program**

*The Project is supported by Proposition 40 as part of the Nonpoint Source Pollution Control Program and local and federal matching funds.*

##### **B. Project Description**

*Oakwood County and the Resource Conservation District are collaborating with USEPA, Office of Research and Development, on developing tools to evaluate “Alternative Futures” (see [http://www.epa.gov/ord/scienceforum/PDFs/science/white\\_d.pdf](http://www.epa.gov/ord/scienceforum/PDFs/science/white_d.pdf)). The “Alternative Futures” project involves building community capacity in the Mill Creek Watershed, particularly to raise community awareness about environmental issues, with emphasis on nonpoint source pollution in a watershed context, and to involve the watershed community in the planned update of the County’s General Plan with the goal of including appropriate planning elements that enhance in-fill development and reduction of impervious surfaces and drainage density throughout the watershed.*

##### **C. Problem Statement:**

###### **i. Identify or characterize baseline data**

*The Mill Creek Watershed is experiencing rapid conversion from agricultural and forestry lands to urban and ex-urban development. The opening of a bullet train station in the southern part of the watershed five years ago enabled people that formerly lived closer to employment centers with high housing costs to move into more affordable housing on the urban fringe. The influx of new watershed residents translates into a Mill Creek Watershed population growth rate of 11% a year over the last five years. The project provides an opportunity to educate long-term residents as well as newcomers about non-point source pollution issues, the connection between land development decisions and beneficial use protection, and to involve them in a planned visioning process as part of Oakwood County’s General Plan update. Baseline data exist in the County’s Geographical Information System (GIS) and include digitized data layers of land use change from 1950-2005, urban growth projections, hydrology, wetlands and other sensitive and unique aquatic habitat types, vegetation at a resolution of 1m, and stormdrain infrastructure. The County also recently compiled a biological resource inventory.*

###### **ii. Identify one or more sources of pollution**

*Mill Creek is on the Impaired Waters list for sediment, nutrients, and pathogens. Agricultural management practices are implicated as the cause of erosion and sedimentation ; malfunctioning septic tanks are suspected as a source of pathogen contamination; and a combination of agriculture and urban land uses are suspected as the sources of nutrients.*

- iii. Identify and describe current restoration activities; Best Management Practices (BMPs); load reduction activities; prevention activities

*The County has an existing hillslope protection ordinance in place designed to minimize erosion from slopes greater than 5%.*

*Agricultural landowners have implemented practices that drain runoff into extensive hillslope drainage networks discharging into tributaries of Mill Creek. Portions of the creek have experienced downcutting and bank erosion, and efforts are underway to restore floodplain functions in a four-mile reach in the central part of the watershed. TMDL implementation plans have not yet been developed or implemented for any of the three pollutant categories of concern.*

- iv. Describe the manner in which BMPs or Management Measure are proposed to be implemented

*N/A*

- v. Summarize how the effectiveness of the proposed practices or measures in preventing or reducing pollution will be determined

*N/A*

- vi. Determine, to the extent feasible, changes in flow pattern in affected water bodies

*N/A*

- vii. Determine economic benefits of implementing project

*N/A. Not a requirement of Proposition 40.*

D. Project Activities or Tasks

Task 1: Project Management and Administration

Task 2: Develop detailed survey and assessment plan, including a training manual. The plan will be comprised of proposed questions and methods for analysis of pre- and post-implementation survey results.

Task 3: Develop Quality Assurance Project Plan linking project objectives with data quality objectives.

Task 4: Administer pre-project survey representative of Mill Creek Watershed population with a target maximum error rate of +/-5%. The opinion poll will be designed to gauge the knowledge of residents about what "a watershed" is, pollution issues (source categories, activities contributing to pollution, understanding of impairment of beneficial uses, and understanding of the connection between land use and impairment).

*Task 5: Work with Oakwood Community College Board of Trustees to incorporate new classes into Environmental Science Department and assist in development of an endowment for instructor position.*

*Task 6: Develop curriculum for Public Works, Planning, and Building Departments for County and Cities within the Mill Creek watershed related to nonpoint source pollution issues and the role of land use decisions in reducing aquatic life and recreation beneficial use impairment.*

*Task 7: Hold a series of five workshops and participate in key community events (Earth Day; Adopt a Watershed Day; Friday Fairs during the summer; Sustainable Farming fundraising event) to staff watershed awareness and education table, distribute fact sheets, and raise community awareness*

*Task 8: Work with Farm Bureau, Builders Association, and Chamber of Commerce to incorporate appropriately tailored staff and member training events, based on curriculum developed for agency staff and modified for professional association audiences.*

*Task 9: Conduct targeted outreach to environmental reporters of Oakwood Gazette and Hillview Register on Alternative Futures project and relevance to General Plan update. Work with County staff and community groups (e.g. Friends of Mill Creek, Property Rights and No Responsibilities Advocates of Oakwood, Get Government off My Back, SUE FFIRST!, etc.) to generate community awareness of Alternative Futures Project.*

*Task 10: Conduct post-implementation survey of pre-project respondents to gauge increase in watershed awareness.*

**E. Category of Project Activities or Tasks:**

*All project activities and tasks fall into the Education, Outreach, and Capacity-building Category.*

**II. Project Goals & Desired Outcomes**

*The goals of this project are:*

- 1) Increase understanding of Mill Creek Watershed residents about basic watershed characteristics and processes and the role of nonpoint source pollution in beneficial use impairment*
- 2) Actively engage residents in the “Alternative Futures” visioning process which will inform the update of the County’s General Plan.*

*The desired outcomes of this project are:*

- 1) Increase the number of watershed residents who can adequately describe what a “watershed” is by a minimum of 15% by the end of the project period.*
- 2) Oakwood College adds new, relevant curriculum components.*
- 3) Insure that a watershed stewardship curriculum is adopted by two professional organizations.*

- 4) Watershed science and planning curriculum is developed and adopted by the Public Works, Building, and Planning Departments throughout the County for in-house staff training purposes.*
- 5) Broad community attendance at the Alternative Futures kick-off meeting.*
- 6) Broad press coverage of the Alternative Futures Planning effort and outcomes.*

III. Project Performance Measures Tables

**Table 2**  
**Example Performance Indicators for Education and Outreach**  
*Evaluating Alternative Futures in the Mill Creek Watershed*

<b>Project Goals</b>	<b>Desired Outcomes</b>	<b>Output Indicators</b>	<b>Outcome Indicators</b>	<b>Measurement Tools and Methods</b>	<b>Targets</b>
1. Educate landowners and residents about baseline environmental conditions and watershed processes	1. Increase number of watershed residents who can adequately describe what a “watershed” is. 2. Oakwood College adds two new, relevant curriculum components. 3. Watershed stewardship curriculum is adopted by professional organizations.	1. No. of residents attending workshops; 2. No. of meetings held with College Board of Trustees for expanding course offerings; 3. No. of special events with relevant outreach material; 4. No. of meetings held with prof. associations	1. Increase in general watershed knowledge and environmental conditions; 2. No. of relevant new college courses offered. 3. No. of Farm Bureau, Builders’ Council, and other prof. associations’ relevant training classes	Opinion/Behavior Surveys (e.g., <a href="http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714-75944--,00.html">http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714-75944--,00.html</a> )	1. 15% increase in watershed residents who can adequately describe what a “watershed” is. 2. Two new watershed curriculum components or courses at college. 3. A minimum of two professional orgs. have adopted and implemented watershed stewardship curriculum for in-house training
2. Provide understanding about land use decisions and NPS pollution	1. Watershed science and planning curriculum is developed and adopted by the Public Works, Building, and Planning Departments throughout the County for in-house staff training purposes.	1. No. of residents attending workshops; 2. No. of meetings held with College Board of Trustees for expanding course offerings; 3. No. of special events with relevant outreach material; 4. Course material developed for County Public Works and Planning staff	1. Increase in knowledge about NPS pollution and land use decisions; 2. Inclusion of NPS issues in land use planning and environmental science college curriculum 3. New training classes implemented for County Public Works and Planning staff	Opinion/Behavior Surveys	1. County staff training curriculum adopted and implemented. 2. 50% of County staff have command of relevant NPS/land use issues after first year of training. 2. Incorporation of NPS issues in new college watershed curriculum or courses
3. Involve residents in “Alternative Futures” project and General Plan update	1. Broad community attendance at the Alternative Futures kick-off meeting. 2. Broad press coverage of the Alternative Futures Planning effort and outcomes.	1. No. of residents participating in “Alternative Futures” workshops 2. No. of newspaper articles and other media coverage about Alternative Futures	1. Increase in County GIS analysis and IT capacity 2. Increase in candidates for political office with good NPS and watershed understanding	Specified by Grantee	1. 200 or more residents at “Alternative Futures” kick-off meeting. 2. Series of three newspaper articles on AF project. 3. Minimum of one candidate in city or county elections with good watershed understanding.